

Claims

1. A mutated polypeptide derived from the pollen allergen Phl p 7 selected from the group consisting of

- (a) polypeptides comprising an amino acid sequence in which in respect to the amino acid sequence as shown in SEQ ID NO:1 one to 15 amino acid residues are deleted, substituted and/or added;
- (b) polypeptides comprising a fragment of (a), wherein the fragment has a length of at least 15 amino acids and at least 90% of the amino acid residues of the fragment are identical to corresponding residues of the amino acid sequence as shown in SEQ ID NO:1;
- (c) polypeptides comprising a fragment of the amino acid sequence as shown in SEQ ID NO:1, wherein the fragment has a length of at least 15 amino acids;
- (d) polypeptides consisting of a fragment of (a), wherein the fragment has a length of at least 10 amino acids and at least 80% of the amino acid residues of the fragment are identical to corresponding residues of the amino acid sequence as shown in SEQ ID NO:1; and
- (e) polypeptides consisting of a fragment of the amino acid sequence as shown in SEQ ID NO:1, wherein the fragment has a length of at least 10 amino acids;

wherein the mutated polypeptide has reduced IgE binding activity compared to wild type Phl p 7.

2. A polypeptide according to claim 1 which has a reduced allergenic activity compared to wild type Phl p 7.

3. A polypeptide according to claim 1 or 2 which is capable of inducing an IgG response in a mammal.

4. A polypeptide according to anyone of claims 1 to 3 which induces a histamine release which is significantly reduced compared with wild type Phl p 7.

5. A polypeptide according to anyone of claims 1 to 4 comprising amino acids 13 to 25 or 48 to 60 of SEQ ID NO:1.

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Biomay Produktions- und Handels-Aktiengesellschaft

amended Claims

1. A mutated polypeptide derived from the pollen allergen Phl p 7 selected from the group consisting of the sequences as shown in SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, and SEQ ID NO:6, whereby said polypeptide has a reduced allergenic activity compared to wild type Phl p 7.
2. A polypeptide according to claim 1 which is capable of inducing an IgG response in a mammal.
3. A polypeptide according to claim 1 or 2 which induces a histamine release which is significantly reduced compared with wild type Phl p 7.
4. A polynucleotide encoding a polypeptide according to claim 1.
5. A vector or plasmid containing a polynucleotide according to claim 4.
6. A host cell transformed or transfected with a vector or a plasmid according to claim 5.
7. A method of preparing a polypeptide according to any one of claims 1 to 3 comprising culturing host cells according to claim 6 under conditions that said polypeptide is expressed and optionally recovering said polypeptide from said host cells.
8. A method of preparing a polypeptide according to claims 1 to 3 comprising chemically synthesizing said polypeptide.
9. The use of a polypeptide according to any one of claims 1 to 3 for the manufacture of a medicament for treating and/or preventing an allergic disorder.
10. The use according to claim 9 wherein the allergic disorder is allergy to a two-EF hand pollen allergen.
11. The use according to claim 10 wherein the allergic disorder is allergy to Phl p 7.

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12. The use according to claim 10 wherein the allergic disorder is allergy to an allergen selected from the group consisting of Bet v 4, Bra r 1, Aln g 4, Bra n 1, Cyn d 7, Ole e 3, Syr v 3 and/or Phl p 7.

13. The use according to any one of claims 9 to 12 wherein the medicament is used for prophylactic vaccination.

14. A pharmaceutical composition comprising a polypeptide according to any one of claims 1 to 3 and a pharmaceutically acceptable carrier or diluent.

15. A pharmaceutical kit comprising a polypeptide according to claims 1 to 3 or a pharmaceutical composition according to claim 14.

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